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**BTECH**  
**(SEM IV) THEORY EXAMINATION 2021-22**  
**POWER PLANT ENGINEERING**

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**Time: 3 Hours****Total Marks: 70****Note: 1.** Attempt all Sections. If require any missing data; then choose suitably.

**SECTION A**

- 1. Attempt all questions in brief.** **2 x 7 = 14**
- What information does hydrograph provide in the hydroelectric power plant?
  - Explain the flow duration curve and mass curve of hydro-electric station.
  - What are the factors to be considered to choose the site for steam power stations?
  - Explain the fuel handling for a thermal station.
  - What is Einstein's mass energy equivalence What is its importance?
  - Explain the radio-activity and radio-active change for a nuclear power station.
  - What do you understand by economic dispatch problem?

**SECTION B**

- 2. Attempt any three of the following:** **7 x 3 = 21**
- What is hydro electric power plant discuss in detail?
  - Explain the main parts and working of thermal station with schematic layout.
  - What are the nuclear material used in nuclear power station? Explain the nuclear materials and feasibility of a nuclear power station.
  - What is MHD power generation system? Explain in detail the MHD power generation.
  - Explain the power factor tariffs, maximum demand tariffs, block rate tariffs and two part tariffs.

**SECTION C**

- 3. Attempt any one part of the following:** **7 x 1 = 7**
- Explain the general arrangements and operation of a hydro-electric plant.
  - Explain the governing of turbines, draft tube, cavitation and hydro-electric generator.
- 4. Attempt any one part of the following:** **7 x 1 = 7**
- What fuel is used in thermal power stations? Define combustion and combustion equipment.
  - What is ash disposal system? Define draught systems. Write a note on feed water in thermal stations.
- 5. Attempt any one part of the following:** **7 x 1 = 7**
- What do you mean by nuclear reaction? Explain the main parts of a reactor and their functions of nuclear power station.
  - Explain with suitable diagrams boiling water reactor and pressurized water reactor.
- 6. Attempt any one part of the following:** **7 x 1 = 7**
- How does solar power work simple explanation?
  - Explain the wind power generation in detail.
- 7. Attempt any one part of the following:** **7 x 1 = 7**
- Why electrical transmission systems are interconnected explain?
  - Explain the performance and operating characteristics of power plants.



PAPER ID-421519

Printed Page: 2 of 2  
Subject Code: REE401

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